

CLAIMS

1. A method for managing a denitration catalyst for managing a plurality of denitration catalysts attached into an exhaust-gas denitration system, the method comprising:
 - 5 a measurement step of measuring performance of the denitration catalysts for each of the denitration catalysts; and
 - a determination step of determining which processing is to be performed, a regeneration processing for the denitration catalysts or a replacement processing for the denitration catalysts, or whether neither
 - 10 of the regeneration processing nor the replacement processing is performed, for each of the denitration catalysts based on the performance measured at the measurement step.
2. The method for managing a denitration catalyst according to
15 claim 1, wherein
 - at the determination step, an optimum regeneration processing is selected from among a plurality of types of regeneration processings when it is determined to perform the regeneration processing for the denitration catalysts based on the performance measured at the
 - 20 measurement step.
3. The method for managing a denitration catalyst according to claim 1, comprising:
 - a replacement step of, if it is determined to perform the
 - 25 replacement processing at the determination step, replacing one of the

denitration catalysts by a denitration catalyst that has been used in another exhaust-gas denitration system, and that has been subjected to the regeneration processing.

- 5 4. The method for managing a denitration catalyst according to claim 1, comprising:

 a collected amount determination step of, if it is determined to perform the regeneration processing at the determination step, determining, as a charge amount, an amount of money at a
10 predetermined ratio to a difference between a cost required for the replacement processing and a cost required for the regeneration processing.

5. The method for managing a denitration catalyst according to
15 claim 1, comprising:

 a collected amount determination step of determining a charge amount to be collected from a user of the exhaust-gas denitration system based on a cost required for an installation processing for the denitration catalysts and the management thereof.

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6. The method for managing a denitration catalyst according to claim 1, wherein

 at the measurement step, the performance of the denitration catalysts are measured by measuring an exhaust gas at an inlet and an
25 outlet of each of the denitration catalysts during a daily management

for the denitration catalysts.

7. The method for managing a denitration catalyst according to claim 1, wherein

5 at the measurement step, a sample of each of the denitration catalysts is extracted and a performance of the extracted sample is measured during a periodic maintenance management for the denitration catalysts.

10 8. The method for managing a denitration catalyst according to claim 1, comprising:

an alteration step of, if it is determined to perform the replacement processing at the determination step, altering a shape of a replacement target denitration catalyst.

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9. The method for managing a denitration catalyst according to claim 1, comprising:

an alteration step of, if it is determined to perform the regeneration processing at the determination step, altering a shape of a
20 regeneration target denitration catalyst.

10. The method for managing a denitration catalyst according to claim 1, wherein

at the determination step, whether at least one of the
25 regeneration processing for the denitration catalysts, the replacement

processing for the denitration catalysts, and an addition processing for adding a new denitration catalyst is performed or whether none of the regeneration processing, the replacement processing, and the addition processing is performed is determined for each of the denitration catalysts based on the performance measured at the measurement step.

11. The method for managing a denitration catalyst according to claim 10, comprising:

10 an addition step of, if it is determined to perform the addition processing at the determination step, adding a denitration catalyst that has been used in another exhaust-gas denitration system, and that has been subjected to the regeneration processing.

15 12. The method for managing a denitration catalyst according to claim 10, comprising:

an alteration step of, if it is determined to perform the addition processing at the determination step, altering a shape of an addition target denitration catalyst.

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13. A method for managing a denitration catalyst for managing a plurality of denitration catalysts attached into an exhaust-gas denitration system, the method comprising:

a measurement step of measuring performance of the denitration catalysts for each of the denitration catalysts; and

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a determination step of determining an execution timing of a regeneration processing for the denitration catalysts or a replacement processing for the denitration catalysts, based on the performance measured at the measurement step.

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14. The method for managing a denitration catalyst according to claim 13, wherein

at the determination step, the execution timing of one of the regeneration processing for the denitration catalysts, the replacement
10 processing for the denitration catalysts, and the addition processing for adding a new denitration catalyst is determined for each of the denitration catalysts based on the performance measured at the measurement step.

15 15. The method for managing a denitration catalyst according to claim 13, wherein

at the measurement step, the performance of the denitration catalysts are measured by measuring an exhaust gas at an inlet and an outlet of each of the denitration catalysts during a daily management
20 for the denitration catalysts.

16. The method for managing a denitration catalyst according to claim 13, wherein

at the measurement step, a sample of each of the denitration
25 catalysts is extracted and a performance of the extracted sample is

measured during a periodic maintenance management for the denitration catalysts.

17. A method for managing a denitration catalyst for managing a plurality of denitration catalysts attached into an exhaust-gas denitration system, the method comprising:

a prediction step of predicting performance of the denitration catalysts for each of the denitration catalysts based on information on an equipment scale and an operating time of the exhaust-gas denitration system; and

a determination step of determining an execution timing of a regeneration processing for the denitration catalysts, a replacement processing for the denitration catalysts, or an addition processing for adding a denitration catalyst based on the performance predicted at the prediction step.

18. An apparatus for managing a denitration catalyst that manages a plurality of denitration catalysts attached into an exhaust-gas denitration system, the device comprising:

a reception unit that receives information on performance of the denitration catalysts measured by a measuring device provided to the exhaust-gas denitration system, through a network;

an information storage unit that stores the information on the performance of the denitration catalysts received by the reception unit; and

a determination unit that determines which processing is to be performed, a regeneration processing for the denitration catalysts or a replacement processing for the denitration catalysts, or whether neither the regeneration processing nor the replacement processing is performed, for each of the denitration catalysts based on the information stored in the information storage unit.

19. The apparatus for managing a denitration catalyst according to claim 18, wherein

10 the determination unit determines whether at least one of the regeneration processing for the denitration catalysts, the replacement processing for the denitration catalysts, and an addition processing for adding a new denitration catalyst is performed, or whether none of the regeneration processing, the replacement processing, and the addition

15 processings is performed, for each of the denitration catalysts based on the information stored in the information storage unit.

20. An apparatus for managing a denitration catalyst that manages a plurality of denitration catalysts attached into an exhaust-gas denitration system, the device comprising:

a reception unit that receives information on performance of the denitration catalysts measured by a measuring device provided to the exhaust-gas denitration system, through a network;

an information storage unit that stores the information on the

25 performance of the denitration catalysts received by the reception unit;

and

a determination unit that determines an execution timing of a regeneration processing for the denitration catalysts or a replacement processing for the denitration catalysts for each of the denitration catalysts based on the information stored in the information storage unit.

21. The apparatus for managing a denitration catalyst according to claim 20, wherein

the determination unit determines the execution timing of one of the regeneration processing for the denitration catalysts, the replacement processing for the denitration catalysts, and an addition processing for adding a new denitration catalyst for each of the denitration catalysts based on the information stored in the information storage unit.

22. An apparatus for managing a denitration catalyst that manages a plurality of denitration catalysts attached into an exhaust-gas denitration system, the device comprising:

an information storage unit that stores information on an execution timing of a regeneration processing for the denitration catalysts, a replacement processing for the denitration catalysts, or an addition processing for adding a new denitration catalyst, the information determined based on information on performance of a plurality of denitration catalysts in another exhaust-gas denitration

system and the performance information;

an input unit that accepts input of information on an equipment scale and an operating time of the exhaust-gas denitration system;

a predicting unit that predicts performance of the denitration catalysts for each of the denitration catalysts based on the information input by the input unit and the information stored in the information storage unit; and

a determination unit that determines the execution timing of the regeneration processing for the denitration catalysts, the replacement processing for the denitration catalysts, and the addition processing for adding a denitration catalyst for each of the denitration catalysts based on the performance predicted by the predicting unit.